TOBACCO INDUSTRY RESEARCH COMMITTEE
350 FIFTH AVENUE NEW YORK 1, N. Y.

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Application For Research Grant

Date: May 31, 1955

1. Name of Investigator: J. Edwin Wood, M.D.

2. Title: Instructor in Medicine, Boston University School of Medicine

3. Institution & Address: Massachusetts Memorial Hospitals
Evans Memorial
65 East Newton Street
Boston 18, Massachusetts

4. Project or Subject: The effect of prolonged inhalation of tobacco smoke and of prolonged abstinence from the use of tobacco on the peripheral vascular response to acute inhalation of tobacco smoke in man.

5. Detailed Plan of Procedure (Use reverse side if additional space is needed): The purpose of this study would be to determine whether or not the acute response of the peripheral vascular system to the inhalation of tobacco smoke is influenced by the presence or absence of habitual smoking prior to the test. Two groups of subjects will be used; one, normal young individuals with no vascular disease, and two, patients suffering from various forms of peripheral vascular disease.

Subjects will be tested three times during their normal smoking habit, following 24 hours of abstinence, and following 7 days of abstinence.

The test is to be carried out as follows: The subject will be exposed to a room temperature of 83°F. for 30 minutes or whatever period of time that is required for the achievement of basal blood flow and skin temperaturexx readings of the feet for a 15 minute period. Then he will smoke one cigarette during which and after which blood flow and skin temperature determinations will be repeated until the values return to control levels. The entire procedure will be repeated with the subject exposed to a room temperature of 68°F.

These two room temperatures are used by us in standard testing in order to evaluate vascular response under conditions of mild vasodilatation (warm room) and mild vasoconstriction (cool room).

Blood flow in the foot will be measured by the standard venous occlusion method with a full foot plethysmograph. Blood flow change will be estimated by the change in pulse volume of the great toe of the opposite foot as measured by a digit plethysmograph. Skin blood flow of a small toe will be estimated by continuous recording of skin temperature from an attached thermocouple.

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Source: https://www.industrydocuments.ucsf.edu/docs/ppf90000

6. Budget Plan:

Salaries for technical and secretarial assistance will be $3,000, while payment to ten normal professional subjects for three tests each will require $300.

Salaries	$3,300.00
Expendable Supplies	300.00
Permanent Equipment	0.00
Overhead	400.00
Other	0.00
Total	$4,000.00

Not much money

7. Anticipated Duration of Work: One Year.

8. Facilities and Staff Available: Facilities consist of two adjacent peripheral vascular testing laboratories, one of which is a constnat temperature room. All necessary plethysmographic and skin temperature measuring equipment is present in the laboratories. General medical and general surgical wards are present in the same building and are a ready source of hospitalized patients with peripheral vascular diseases. The peripheral vascular Out Patient Department, which is attended by the proposed director of the project, is also a source of patient material. Normal subjects will be volunteer medical students.

Staff to consist of the Director of the Project, Dr. J. Edwin Wood, who will oversee all details of procedure, a research fellow, Dr. John W. Eckstein, who will devote full time to the project and Dr. Robert M. Wilkins, Director of the Cardiovascular Laboratories of the Evans Memorial Hospital, who will be available for consultation.

technical & secretarial assistance will be necessary available.

9. Additional Requirements: There are no additional requirements.

10. Additional Information (including relation of work to other projects and other sources of supply):

Studies have been carried out in the past which suggest that vasoconstriction occurs in response to tobacco inhalation. The question of possible modification of this response by prior experience with tobacco in normal and diseased patients has not been carefully studied. Though the possibility that "cutting down" on tobacco may actually evoke a more profound response when it is occasionally used than with continued use has been suggested. Such has never been systematically studied to the knowledge of the undersigned however.

Signature /s/ J. Edwin Wood
Director of Project

/s/ Philip D. Bennet, M.D.
Business Officer of the Institution Administrator

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